



## MARS Reporting & Querying

### What's New in SAP Business Objects BusinessIntelligence 4.1



# Overview

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- This document highlights **noticeable new features** of version 4.1 of SAP Business Objects BusinessIntelligence, and the value added for end users.
- MARS released this version in **January 2014**.
- Intended Audience:
  - This document is for MARS Reporting and Querying Users that have experience or not, using the prior version of SAP Business Objects Business Intelligence.
  - **Page 4-11 are for Business & Power users.**
  - **Page 12 and above are for Power Users only.**



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# New Features for the MARS R&Q Business & Power users - Overview

Application/Feature	Comment / Value added
<b>Launch Pad (New InfoView !)</b> <ul style="list-style-type: none"><li>Customizable home tab</li><li>Tabbed interface</li></ul>	Customizable HOME tab may contain recently opened documents, new inbox objects, available applications  It is possible to pin frequently used documents into tabs  It saves a lot of time for users and it is fairly faster navigation than in InfoView (XI 3.1)
<b>Launch Pad</b> <ul style="list-style-type: none"><li>HTML mode to view WebI documents</li></ul>	The HTML mode doesn't require downloading Java. Therefore, all the Java security popups and warnings will not be displayed any more.
<b>Web Intelligence</b> <ul style="list-style-type: none"><li>Notification before expiring session and ability to refresh it by simple click</li></ul>	This is one of the small things which make huge effect for all end users. "Your session has been expired" without notification was one of the most evil things in XI 3.1 especially on PROD environment where you could not have long time before timing out
<b>Web Intelligence</b> <ul style="list-style-type: none"><li>Additional export options</li></ul>	Full support of excel exporting. It means the rows limit is increased from 65k to about 1M rows. Furthermore, <b>images</b> are exported to XLSX as well.
<b>Web Intelligence</b> <ul style="list-style-type: none"><li>Folding/unfolding</li></ul>	Excel " <b>drilling</b> " alias folding/unfolding for <b>tables</b> is available even in HTML mode. This is particularly useful in HTML mode.
<b>Web Intelligence</b> <ul style="list-style-type: none"><li>Ability to freeze rows and columns in a table</li></ul>	Freezing headers or columns is something what excel fanatics (and not only them) voted for years. Finally it is here. And it works great.
<b>Web Intelligence</b> <ul style="list-style-type: none"><li>Better dependent (nested) prompts</li></ul>	Nested prompts behavior is improved- if you selected prompt without filling the previous one (on which is specific prompt dependent), there is link to it.
<b>BI Platform</b> <ul style="list-style-type: none"><li>Significant performance improvement</li></ul>	Reduction of server CPU load and better handling of large documents



# BI Launch Pad

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For the MARS R&Q Business & Power Users

## New Interface: "InfoView" is now "BI Launch Pad"

The screenshot displays the MARS BI Launch Pad interface. At the top, a header bar includes the MARS logo, a welcome message for the Administrator, and navigation links for Applications, Preferences, Help menu, and Log off. Below the header, two main navigation tabs are visible: "Home" and "Documents". The "Home" tab is currently selected. The main content area is divided into several sections:

- My Recently Viewed Documents:** A list of documents including "Lookup - Org Codes" and "Listing - Organizations".
- 0 unread messages in My Inbox:** A section indicating no unread messages.
- My Applications:** A vertical list of application icons, including a document, a cube, a gear, a diamond, and a grid.
- My Recently Run Documents:** A list of documents including "TOO10 Billet Report (Live)", "NWS Budget Fact Sheet", and "MARS Response Entry - NOAA V...".
- 0 Unread Alerts:** A section indicating no unread alerts.

A yellow callout box highlights the navigation tabs and provides the following text:

The new interface features two main navigation tabs: the Home tab and the Documents tab. Other objects open in new tabs or windows, depending on your user preferences.

# Default Home Tab Layout

The screenshot shows the MARS system interface. At the top, a navigation bar includes the MARS logo, a 'Home' tab (highlighted with a yellow box), and a 'Documents' tab. The main content area is divided into several modules:

- My Recently Viewed Documents:** A list of documents including 'Lookup - Org Codes', 'Listing - Organizations', 'MARS NOA:', 'TOO10 Billet', 'Listing - Pro', 'MARS NOA:', 'MARS 09WC', 'List Reports', 'MARS PI Re', and 'MARS Resp'.
- 0 unread messages in My Inbox:** A section indicating no unread messages.
- My Applications:** A section displaying various application icons.
- My Recently Run Documents:** A list of documents including 'TOO10 Billet Report (Live)', 'NWS Budget Fact Sheet', and 'NWS Budget Fact Sheet'.
- 0 Unread Alerts:** A section indicating no unread alerts.

A yellow callout box is overlaid on the 'My Recently Viewed Documents' module, containing the following text:

The default Home tab layout contains these five modules:

- My Recently Viewed Documents
- Unread Messages in My Inbox
- My Applications
- My Recently Run Documents
- Unread Alerts

You or your administrator can also design a custom BI workspace and set it as the default Home tab for different users and groups.

# Document Tab

Welcome: **Administrator** | Applications ▾ | Preferences | Help menu ▾ | Log off

Home Documents

View ▾ New ▾ Organize ▾ Send ▾ More Actions ▾ Details

My Documents

- My Favorites
- Inbox
- My Alerts
- Subscribed Alerts
- Personal Categories

Title ^	Type	Created By
~Webintelligence	Folder	Administrator
Development	Folder	Administrator
Francis	Folder	Administrator
Thankir	Folder	Administrator
Average salary NWS	Web Intelligence	Administrator
CR049 - Monthly Backlog	Web Intelligence	Administrator
CR091 - C-suite User Profile	Web Intelligence	Administrator
HIC-MIC Analysis	Web Intelligence	Administrator
HICMIC	Web Intelligence	Administrator
Labor Project hours	Web Intelligence	Administrator

The Documents tab provides access to the repository of business intelligence content.

The Documents tab provides a left-hand navigation panel with drawers that let you switch easily between different views of the repository. The Details panel lets you view document metadata as you browse.

Total: 36 items

# Platform Search functionality

The screenshot displays the MARS application interface. At the top, a navigation bar includes the MARS logo, a welcome message for the Administrator, and links for Applications, Preferences, Help menu, and Log off. A search bar on the right contains the text 'MARS'. Below the navigation bar, a 'Documents' tab is active, showing a 'Search' section on the left and 'Search Results' on the right. The 'Search' section includes a search input field with 'MARS', a 'Refine Search Results By:' section with facets for 'type' (web intelligence, hyperlink, user, user group, program) and 'location' (00 noaa, 50 oar, user folders, 20 nws, cfo 1r-bo4dev1.hq.nws.noaa), and a 'Refresh Time' section (All, Last Year). The 'Search Results' section lists six results, each with a document icon, a title, and a description. A yellow box highlights the search input field and the facets. A yellow callout box contains text explaining the search functionality.

Welcome: **Administrator** | Applications ▾ | Preferences | Help menu ▾ | Log off | **MARS**

Home Documents

View ▾ New ▾ Organize ▾ Send ▾ More Actions ▾ Details

My Documents

Folders

Categories

Search

MARS

Refine Search Results By:

type

- web intelligence (181)
- hyperlink (6)
- user (2)
- user group (2)
- program (1)
- More...

location

- 00 noaa (105)
- 50 oar (40)
- user folders (22)
- 20 nws (10)
- cfo 1r-bo4dev1.hq.nws.noaa (7)
- More...

Refresh Time

- All (194)
- Last Year (173)

**Search Results**

**MARS Employee Overhead : 9265**  
Detail **MARS** Labor Data for a particular pay period  
CFO 1R-BO4DEV1.hq.nws.noaa/Inboxes/adamsc

**MARS PI Reports**  
YTD **MARS** Data differentiating **MARS** Labor and other objects, summarized by project-task, with funding source and balances  
50 OAR/50 OAR Standard

**MARS PI Reports**  
YTD **MARS** Data differentia  
User Folders/adamsc/My W

**C 00 NOAA MARS Privacy**  
C 00 NOAA --> C 00 NOAA  
CFO 1R-BO4DEV/User Group

**MARS Labor Comparison b**  
YTD Comparison of CBS and  
50 OAR/50 OAR Standard

**MARS Allot-BOP-Allowance**  
Compares the CBS Allotmen  
00 NOAA/NOAA MARS Stan

Platform Search functionality and performance have been improved. When you type the text that you want to locate in the Search field in the toolbar, quick search functionality shows the top six results sorted by relevance as you type.

Search goes through the metadata and content of documents that are found in the repository and in Explorer. You can also use advanced syntax such as Boolean, phrase, and attribute values in your search.

When you run your search, your results are listed in the Search drawer and sorted by facet. These facets group your results together by InfoObject metadata, document metadata, and document content.

194 items

## Pinning frequently used documents

The screenshot displays the MARS Financial Statement Graph application. The top navigation bar includes 'Home', 'Documents', and 'MARS Financial Stat...'. A yellow box highlights the 'Pin' icon in the document tab bar. A text box explains: 'Documents that you frequently access can be opened as tabs and pinned. The next time you log onto BI launch pad, pinned document tabs are automatically ready for viewing.'

The left sidebar shows a 'Navigation Map' with a tree structure:

- MARS Financial Statement - Graph
  - Direct Funds
  - Reimbursable Funds
  - Internal Fund
  - Transfers-In
  - FTE by Org
  - Report Notes

The main content area features the NOAA logo and the title 'Fiscal Year 2012 - Financial Statement Graph - through September'. Below the title, it specifies 'Direct Funds by Fund Group ; Organizations: \*'. A vertical axis on the left of the graph area is labeled with values from \$ 20.0 K to \$ 100.0 K in \$ 10.0 K increments. A yellow warning icon is visible next to the \$ 100.0 K label.

# Notification before expiring session

The screenshot shows a web application window titled "OMAO Personnel Summary". The interface includes a top navigation bar with "Organize", "Send", "More Actions", and "Details" tabs. A left sidebar contains a tree view with items like "d", "sis", "rts", "iance Reports", "Entry", "of Organization", "nce Reporting", and "Eastern Region". The main content area displays a table with columns "Title", "Type", and "Last Run". A modal dialog box titled "Session Timeout Warning" is overlaid on the table, displaying the message: "Your user session will expire in 1 minute(s). Would you like to continue your user session or log off?". The dialog has "Continue" and "Log Off" buttons.

Title ^	Type	Last Run
NOAA TO - Add Billet	Hyperlink	
NOAA T		
NOAA T		
NWS Te		
OMAO M		
OMAO P		
TO000 Organization Chart	Web Intelligence	
TO010 Billet Report (Live)	Web Intelligence	
TO010H Billet Report (Historical)	Web Intelligence	
TO012 Accession and Separations	Web Intelligence	
TO013 Employee Listing	Web Intelligence	
TO014 Position Listing	Web Intelligence	



# Web Intelligence

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For the MARS R&Q Business & Power Users

# Freeze header rows or columns

The screenshot shows the MARS application interface. At the top, there is a header bar with the MARS logo, a welcome message for the Administrator, and navigation links for Applications, Preferences, Help menu, and Log off. Below this is a breadcrumb trail: Home > Documents > OMAO Personnel Su... The main toolbar contains various icons for file operations and data manipulation. A 'Freeze' button, represented by a grid icon, is highlighted with a yellow box. A dropdown menu is open from this button, showing two options: 'Freeze Header Rows' and 'Freeze Header Columns'. On the left, a 'Navigation Map' pane lists several reports, with 'Civilians On Board (1)' selected. The main content area displays a table with the following data:

			NOAA Corps
OMAO	08-01-0003-00-00-00-00	NOAA CORPS BLOCK FUNDING	317

In reading mode, you can freeze column headers or a certain number of columns at the left side of table to ensure that they remain visible while you scroll within the report

Select a column header to enable the **Freeze button**

# Folding / Unfolding

Welcome: **Administrator** | Applications ▾ Preferences Help menu

Home Documents **Labor Project hours**

Web Intelligence ▾ [Icons] [Track ▾] [Drill ▾] [Filter Bar] [Freeze ▾] **Outline**

Navigation Map ▾  
 Labor Project hours  
 Report 1

Click to Unfold

The **outline** feature allows you to fold and unfold sections of a document to show and hide item

**Show Outline**  
 This option shows or hides the outline. It will provide the possibility to fold or unfold report elements.

**2010**

Full Name	Project Code	Task Code	Hours	Project Descr	Task Descr
ANDRADE, CHARL	09WGALB	PLB	157.50	LABOR DEFAULT M	DEFAULT LABOR M
ANDRADE, CHARL	17K3N23	P00	295.25	DEPARTMENT OF I	NO TASK
ANDRADE, CHARL	1CK3FAR	P5D	18.50	DARRF BASE	DUWAMISH RIVER
ANDRADE, CHARL	1CK3FAR	PDM	141.50	DARRF BASE	DARRP MANAGEMI
ANDRADE, CHARL	1CK3FAR	PDT	44.00	DARRF BASE	DARRP TRAINING
ANDRADE, CHARL	1CK3FAR	PHF	10.00	DARRF BASE	HANFORD, WA, NR
ANDRADE, CHARL	H8K3N03	P00	63.00	ORR-COASTAL PR	CRPRD BASE
ANDRADE, CHARL	H8K3N03	PDT	23.50	ORR-COASTAL PR	DARRP TRAINING
BAKER, GREGORY	09WGALB	PLB	34.00	LABOR DEFAULT M	DEFAULT LABOR M
BAKER, GREGORY	17K3FHA	P00	36.00	OIL SPILL NRDA	CASTRO COVE/CH

## Cascading LOV with a flattened display

The screenshot shows an Oracle APEX 'Prompts' page. On the left, a 'Prompts Summary' table lists three prompts: 'Enter Last Name Smith' (checked), 'Enter First Name Lindsey' (checked), and 'Enter values for Employee Id:' (highlighted with a red diamond and a red arrow pointing to the right). The right side of the page shows the 'Enter values for Employee Id:' prompt. It includes a 'Type a value:' text input field and a 'Flattened' button. Below the input field, a list of 'Employee Id' values is displayed in a flattened hierarchy, with '159' selected. The entire interface is titled 'Prompts' at the top.

Prompts Summary	
✓	Enter Last Name <b>Smith</b>
✓	Enter First Name <b>Lindsey</b>
◆	Enter values for Employee Id:

Enter values for Employee Id:

Type a value:

Employee Id

159

- **Employee Id** value is populated based on the values of the first 2 prompt criteria.
- The flattened hierarchy display (rather than using the hierarchical display) allows for manual input of values and allows for value searching at each level of the hierarchy.



# Web Intelligence

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For the MARS Power User

# New Features for the MARS R&Q Power users - Overview

Application/Feature	Comment / Value added
<b>Web Intelligence</b> <ul style="list-style-type: none"> <li>New user interface</li> </ul>	New ribbon interface similar to Office 2007, but navigation in edit mode is considered to be a little clearer in XI 3.1.
<b>Web Intelligence</b> <ul style="list-style-type: none"> <li>Data preview</li> </ul>	It is possible to preview data even for one query
<b>Web Intelligence – Charts features</b> <ul style="list-style-type: none"> <li>New graph types</li> <li>Design improved</li> <li>Enhanced options</li> </ul>	<p>There are new graph types such as s Scatter Bubble, Polar Bubble, Dual Axes Charts, Heat Maps, Box Plots, Series Pie Charts and Tag Cloud, Waterfall chart type.</p> <p>Graph design has been completely recreated as well. Now you can create professional looking graphs .</p> <p>You may assign shadows and lightning effects, gradient - it is similar change as it was between excel 2003 graphs and excel 2007 graphs.</p> <p>For possibilities of customizing chart look it is good to know that you can finally assign different axis values (for specific chart types), choose from predefined color palettes preferred style or set color transparency.</p> <p>you can +create more custom color graph palettes +directly in WebI. You may also define line width. As a result, WebI charts are fairly better and more importantly, report charts customization/recreation is faster.</p>
<b>Web Intelligence – Improved copying</b> <ul style="list-style-type: none"> <li>Cell format copy</li> <li>Object copy between documents</li> </ul>	<p>Cell format copy facilitates setting the right format for selected objects in the first case. In the second case it is great enhancement when working with multiple documents or reports. It has many limitations though - users are unable to copy sections.</p>
<b>Web Intelligence</b> <ul style="list-style-type: none"> <li>Hiding abilities</li> </ul>	<p>1) It is possible to hide column very simply. Works only on dimensions.</p> <p>2) It is possible to use <b>hide when condition</b> not only on section (XI3.1) but <b>on a table</b> as well. And because tables are copy-able elements to other documents, users may benefit from it even more.</p>
<b>Web Intelligence</b> <ul style="list-style-type: none"> <li>Object value selector</li> </ul>	This feature will benefit those who write many formulas
<b>Web Intelligence</b> <ul style="list-style-type: none"> <li>Group by Variables</li> </ul>	Great feature for users who need to create their own lookup quickly without redesigning universe or data layer.
<b>Web Intelligence</b> <ul style="list-style-type: none"> <li>Default hierarchy level</li> </ul>	Usable for those who use drill functionality a lot. The hierarchy in a table was automatically collapsed to the root hierarchy member when you refreshed (or purged data) from a document. Not anymore, now you have an option - the right-click contextual menu for a report table and there you can select desired default drill level.

# Perform analysis on hierarchically organized data

The screenshot displays a BI tool interface with a 'Query Panel' on the left and a 'Member Selector' dialog box in the center. The 'Query Panel' shows a 'Universe outline' for 'Adventure\_Works\_CR' with a tree structure including 'Account', 'Customer', 'Date', 'Delivery Date', 'Department', 'Destination Currency', 'Employee', 'Geography', 'Internet Sales Order Details', 'Organization', and 'Product'. The 'Customer' hierarchy is expanded, showing 'Location', 'Demographic', 'Contacts', and 'Customer Geography'. The 'Member Selector' dialog box is open, showing a list of members under the 'Members' tab. The list includes 'All Customers', 'Australia', 'Canada', 'France', 'Germany', 'United Kingdom', and 'United States'. 'Canada' and 'France' are selected. A text box in the dialog explains that Web Intelligence enables analysis on hierarchically organized data using analysis dimensions, hierarchies, levels, attributes, named sets, and calculated members. It also states that in reports, data can be explored by expanding and collapsing hierarchy members, and measures are calculated according to their position in the hierarchy. The dialog has 'OK' and 'Cancel' buttons at the bottom.

**Query Panel**

Add Query

**Universe outline**

Adventure\_Works\_CR

Type here to filter tree

- Adventure\_Works\_CR
  - Account
    - Account
    - Account Number
    - Account Type
    - Accounts
    - Summary P&L
  - Customer
    - Location
    - Demographic
    - Contacts
    - Customer Geography
  - Date
  - Delivery Date
  - Department
  - Destination Currency
  - Employee
  - Geography
  - Internet Sales Order Details
  - Organization
  - Product

**Result Objects**

Customer Geography

**Query Filters**

To filter the query, drag predefined

**Member Selector**

Members Metadata Prompt

- All Customers
- Australia
- Canada
- France
- Germany
- United Kingdom
- United States

Web Intelligence now enables you to build queries and perform analysis on hierarchically organized data using the following objects: analysis dimensions, hierarchies, levels, attributes, named sets, and calculated members.

In your reports, you can explore the data by expanding and collapsing hierarchy members, and measures are calculated according to their position in the hierarchy. All existing features, such as sorts, data synchronization, and breaks, work with hierarchical objects.

France

OK Cancel

## Level number identifies levels within a hierarchy

When working with hierarchies, the levels within a hierarchy are now identified by level number ordinals in addition to level names.

This change resolves issues when translating reports.

Note that member selection and level selection cannot be mixed. For example, if you select three levels, you cannot then choose additional members at a deeper level in the hierarchy.

Country - Key

- Material
  - Material
  - Material - Material group (K)
  - Material - Material group (T)
  - Material - Medium Text
  - Material - Text
  - Material - Key
- Open orders
- Open orders qty

Data Preview

Query 1

Member Selector

Members Levels Prompt

☒ Enable levels

Levels

- ☒ 1 - Level 01
- ☒ 2 - Level 02
- ☒ 3 - Level 03
- ☐ 4 - Level 04

Summary

Selection

- ☒ All members until level 3 - Level 03

OK Cancel

## Version number for multiple versions of a hierarchy

The screenshot displays a software interface with a 'Universe outline' on the left and 'Result Objects' on the right. The 'Universe outline' shows a hierarchy tree under 'Query - Hierarchy variable and versions variable'. The tree includes 'Customer' and 'Customer HierVers' with versions [1], [2], and [V3]. A yellow arrow points to 'Customer HierVers [2]'. The 'Result Objects' panel shows 'Customer HierVers [2]' and 'Order Quantity'. A yellow arrow points to 'Customer HierVers [2]'. A callout box on the right explains the version numbering.

Universe outline

Query - Hierarchy variable and versions variable

- Customer
  - Customer
  - Customer HierVers [1]
  - Customer HierVers [2]
  - Customer HierVers [V3]
  - Customer HierarchyLong
  - Customer - Cust. Address 2 (Key)
  - Customer - Cust. Address 2 (Text)
  - Customer - Cust. Credit Limit (Key)
  - Customer - Cust. Credit Limit (Text)
  - Customer - Cust. Fax Number (Key)
  - Customer - Cust. Fax Number (Text)
  - Customer - Cust. Phone Number (Key)
  - Customer - Cust. Phone Number (Text)
  - Customer - Cust. Postal Code (Key)
  - Customer - Cust. Postal Code (Text)
  - Customer - Customer Address 1 (Key)
  - Customer - Customer Address 1 (Text)
  - Customer - Short Text
  - Customer - Medium Text
  - Customer - Long Text
  - Customer - Text
  - Customer - Key
- Country
- City
- Order Quantity

Result Objects

- Customer HierVers [2]
- Order Quantity

Query Filters

To filter the query, drag predefined filters here or drag objects here then use the Filter Editor to define custom filters.

Data Preview

When multiple versions of a hierarchy are available, each version is now distinguished by a version number.

Previously, multiple versions of a hierarchy all displayed the same name.

# Improved Copying

You can now copy queries, variables, tables and charts from one Web Intelligence document to another.

When you copy an object, all its dependent objects are also copied. For example, all the queries, hierarchies, dimensions, measures, and variables that supply data to a table are copied when the table is copied. Tables and charts can be copied with or without formatting or data.

Home Documents **Listing - Object Codes**

File Properties

Report Elements Formatting Data Access Analysis Page Setup

Tables Cell Section Chart Other Tools Position Linking

Navigation Map

- Listing - Object Codes
  - 8-Digit Object Code Listing
  - 4-Digit Object Code Listing**
  - 2-Digit-Object Code Listing
  - Report Notes

**NATIONAL OCEANIC & ATMOSPHERIC ADMINISTRATION**

**4-Digit Object Code Listing**

01	REL-TEK REQUIRED
01-00	REL-TEK REQUIRED
01-00	REL-TEK REQUIRED OBJECT CLASS
01-02	EXPENDITURE TRANSFER (FINANCE HQ ONLY)
01-99	GEN FUND RECT ACCT - INACTIVE FEB 2004
02	INVALID OBJECT CODE
02-00	INVALID OBJECT CODE
03	ACCOUNTS RECEIVABLE
03-00	ACCOUNTS RECEIVABLE

## Object descriptions can be copied to the clipboard

The screenshot displays a query tool interface with several panels. On the left is the 'Universe outline' panel, which contains a tree view with the following items: 'KL\_Hier\_Var\_Hier\_Node' (expanded), 'Material', 'Country', 'Open orders' (highlighted in blue), and 'Open orders qty'. Above this tree is a search bar labeled 'Type here to filter'. The main area on the right is divided into three sections. The top section is 'Result Objects', which shows three buttons: 'Material', 'Country', and 'Open orders'. A tooltip with a document icon and the text 'Copy description to clipboard' is positioned over the 'Open orders' button. The middle section is 'Query Filters', which includes a descriptive text and a large empty area for filters. The bottom section is 'Data Preview', which is currently empty and has a 'Refresh' button in the top right corner. At the very bottom of the interface is a status bar that reads 'Query 1' on the left and 'Last refresh date: November 1, 2013 3:14:32 PM GMT-07:00' on the right.

The object descriptions that display in the Query Panel can now be copied to the clipboard, enabling you to reference the descriptions when creating and interpreting documents.

## New functions in the formula editor

The formula language contains new functions and operators for working with hierarchical data:

- Aggregate is a new function which returns the default aggregation of a measure, and has an additional parameter to specify a member set expression on a hierarchy.
- Depth returns the depth of a member in a hierarchy.
- IsLeaf determines whether a member is a leaf member.
- Parent, Ancestor, Children, Descendants, Siblings, Lag, and Range allow you to define a member set on a hierarchy.
- Before, After, Before\_After, Leaves, Self\_After, Self\_Before, and Self\_Before\_After are new operators for working with hierarchies.

Some existing aggregation functions also accept sets of hierarchy members to provide the calculation context of a measure:

- Min, Max, Sum, Count, and Average all have an additional parameter to specify a member set expression on a hierarchy.

**Functions**

- Aggregate
- All
- Character
- Data Provider
- Date & Time
- Document
- Logical
- Misc.
- Numeric
- Set

**Operators**

= < <= > >= > .

+ - / \* ; ( )

After  
All  
And  
Before  
Before\_After  
Between  
Block  
Body  
Bottom  
Break  
Col  
Distinct

Arranged by: Alphabetic order

Report 1 ▼

OK Cancel

## Value object in the formula editor

Create Variable

**Variable Definition**

Name:

Qualification: Measure

Type:

**Formula**

= [Query 1].[Sales Person]InList()

Formula has not been validated.

**Available objects**

- BExSimpleHierarchy
  - Country Hierarchy 01 (Q
  - Country Hierarchy 01 (Q
  - Country Hierarchy 01 (Q
  - Sales Person (Query 1)**
  - Sales Person (Query 2)
  - Sales Person (Query 3)

**Functions**

- Aggregate
- All
- Character
- Data Provider
- Date & Time
- Document
- Logical
- Misc.

**Operators**

- = < <=
- + - /
- Values...
- After
- All
- And
- Before

**Description**

**Sales Person**

Sales Person

In the formula editor, there is a Values object in the list of operators, enabling you to select the desired object values from a list rather than typing them.

**List of Values**

Sales Person
Anne Dodsworth
Janet Leverling
Margaret Peacock
<b>Michael Suyama</b>
Nancy Davolio
Robert King

Enter search pattern

OK Cancel

Order Quantity

100,000

80,000

60,000

40,000

20,000

0

# Data Preview

Query Panel

Universe outline

Master perspective

Type here to filter on th

MARS Codes Listings

- Prompts
- Accounting Codes
- Organization
- Fund
- Program
- Project
- Task
- Object Code
- Budget Program Group (BPG)
- MARS Program Group
- MARS OPT
- MARS Doc-Item
- Project Crosswalk
- Project Category
- Pay Period
- Chart
- PPBES Codes (Used prior to FY09)
- PPBES Distribution (Used prior to)
- PPBES RPM Goal Codes (Used after)

Result Objects

LO Code / Descr FMC / FMC Descr Org 1 Active Status Org 2 Active Status

Org 3 Active Status Org 4 Active Status Org 5 Active Status Org 6 Active Status

Org 7 Active Status NWS Office Type LO LO Descr FMC FMC Descr

Query Filters

LO Prompt (Org 1)

Data Preview

LO Code / Descr	FMC / FMC Descr	Org 1 Active Status	Org 2 Active Status	Org 3 Active Status
20 NATIONAL WEATHER S...	20-00 BUDGET USE ONLY ...	Y	Y	Y
20 NATIONAL WEATHER S...	20-01 NATIONAL WEATHE...	Y	Y	Y
20 NATIONAL WEATHER S...	20-01 NATIONAL WEATHE...	Y	Y	Y
20 NATIONAL WEATHER S...	20-01 NATIONAL WEATHE...	Y	Y	Y
20 NATIONAL WEATHER S...	20-01 NATIONAL WEATHE...	Y	Y	Y
20 NATIONAL WEATHER S...	20-01 NATIONAL WEATHE...	Y	Y	Y
20 NATIONAL WEATHER S...	20-01 NATIONAL WEATHE...	Y	Y	Y
20 NATIONAL WEATHER S...	20-01 NATIONAL WEATHE...	Y	Y	Y
20 NATIONAL WEATHER S...	20-01 NATIONAL WEATHE...	Y	Y	Y
20 NATIONAL WEATHER S...	20-01 NATIONAL WEATHE...	Y	Y	Y

Type a text to filter the values

You can see the data returned by the query without actually running the report

## Many new charting features

Several new chart types have been introduced, including:

- Pie chart with depth
- Scatter charts
- Bubble charts
- Box plot
- Heat map
- Tree map (useful for hierarchies)

Additional support is also added for hierarchical display in charts, including:

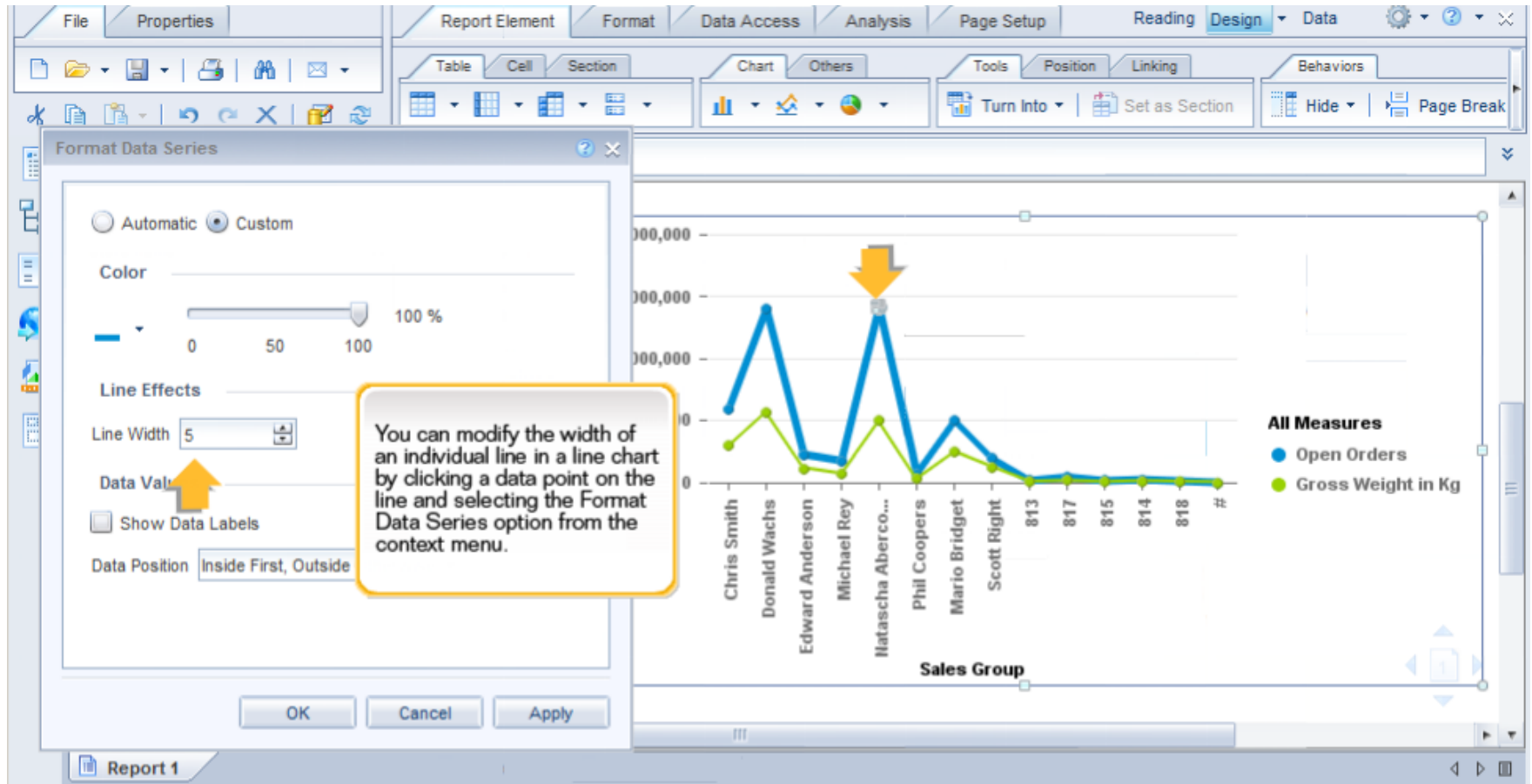
- Visual display of hierarchies in axis labels
- Support for hierarchical levels as feeds

The screenshot shows the SAP Business Explorer interface with the 'Design' tab selected. A context menu for 'Pie' charts is open, showing options: 'Pie', 'Pie with Variable Slice Depth' (highlighted with a yellow arrow), 'Doughnut', and 'More Pie Charts...'. Below the text box, a table displays sales data:

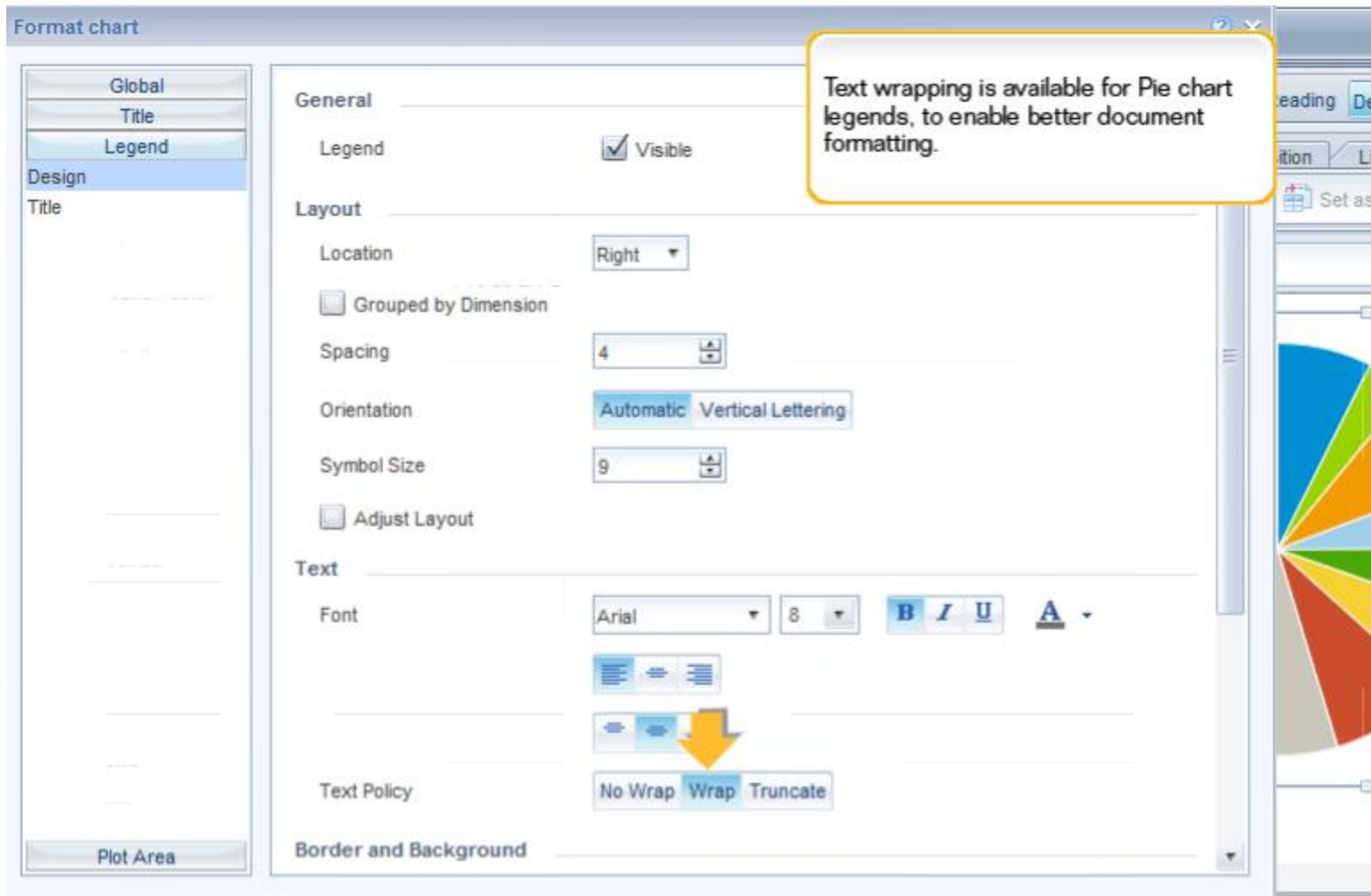
State	Store name	Quarter	Year	Sales revenue
California	e-Fashion Lo	Q1	2004	\$308,928
California	e-Fashion Lo	Q1	2005	\$398,860
California	e-Fashion Lo	Q1	2006	\$421,390
California	e-Fashion Lo	Q2	2004	\$359,550

The bottom status bar shows 'Report 1', 'Sales by product', 'Track Changes: Off', 'Page 1', '100%', and 'Connected'.

## Line Chart: width of an individual line can be modified



## Pie Chart: Text wrapping available in the legend



## Waterfall Chart: different colors for totals and subtotals

Waterfall charts can now display different colors for totals and subtotals, as well as for positive and negative values. You can configure the settings on the Palette and Style tab of the Format chart dialog.

These enhancements make it easier for users to interpret waterfall charts.

**Custom Format**

Start Value Color: Automatic Fixed Value

Start Value Color Value: ☒ RGBA Color ☐ Gradient

Total Value Color: Automatic Fixed Value

Total Value Color Value: ☒ RGBA Color ☐ Gradient

Negative Value Color: Automatic Fixed Value

Positive Value Color: Automatic Fixed Value

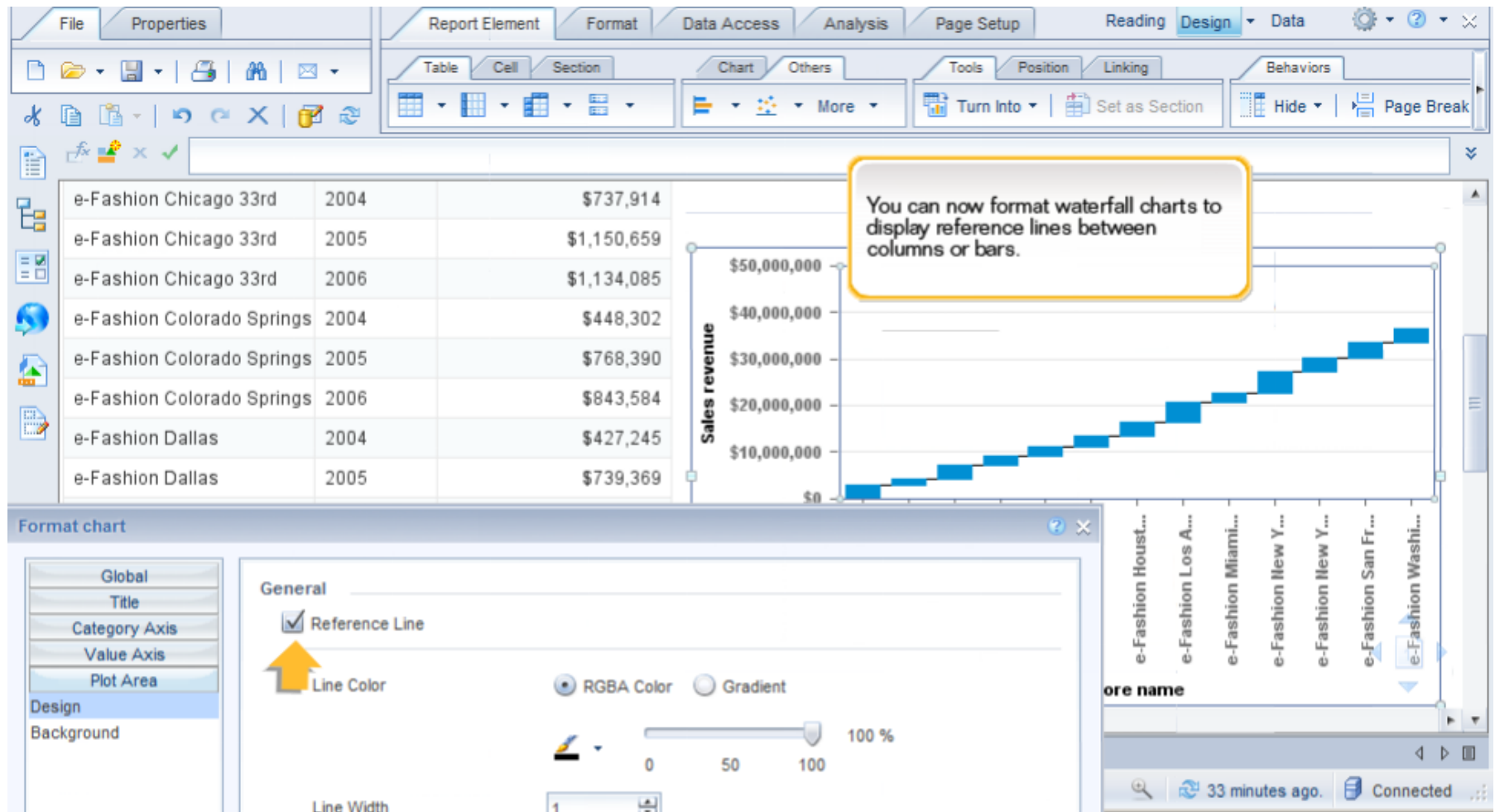
Palette settings.

Color Palette: Default

OK Cancel Apply

Preview: Waterfall chart showing categories: Samples, Short sleeve, Soft fabric, Sweats, Turtleneck, Total. The 'Total' bar is highlighted in green.



# Waterfall Chart: Displaying reference lines









## Custom color palettes

### Manage Palettes

**Built-in**











Default      Spectrum

Orange      Red      Blue      Green      Violet      Black and White

**Custom**






You can create and edit custom color palettes to manage chart colors. Custom palettes are stored within the document in which they are created.


Series Color commands are available in the right-click menu when formatting a chart. These commands enable you ensure that the same colors are used consistently for the same objects in a series of charts.

### Create palette

Name

 Creating a new palette identical to an existing palette is possible. Modify the color pattern or cancel.

**Color settings**




**Colors**

Color  

Opacity 
100 %

0      50      100

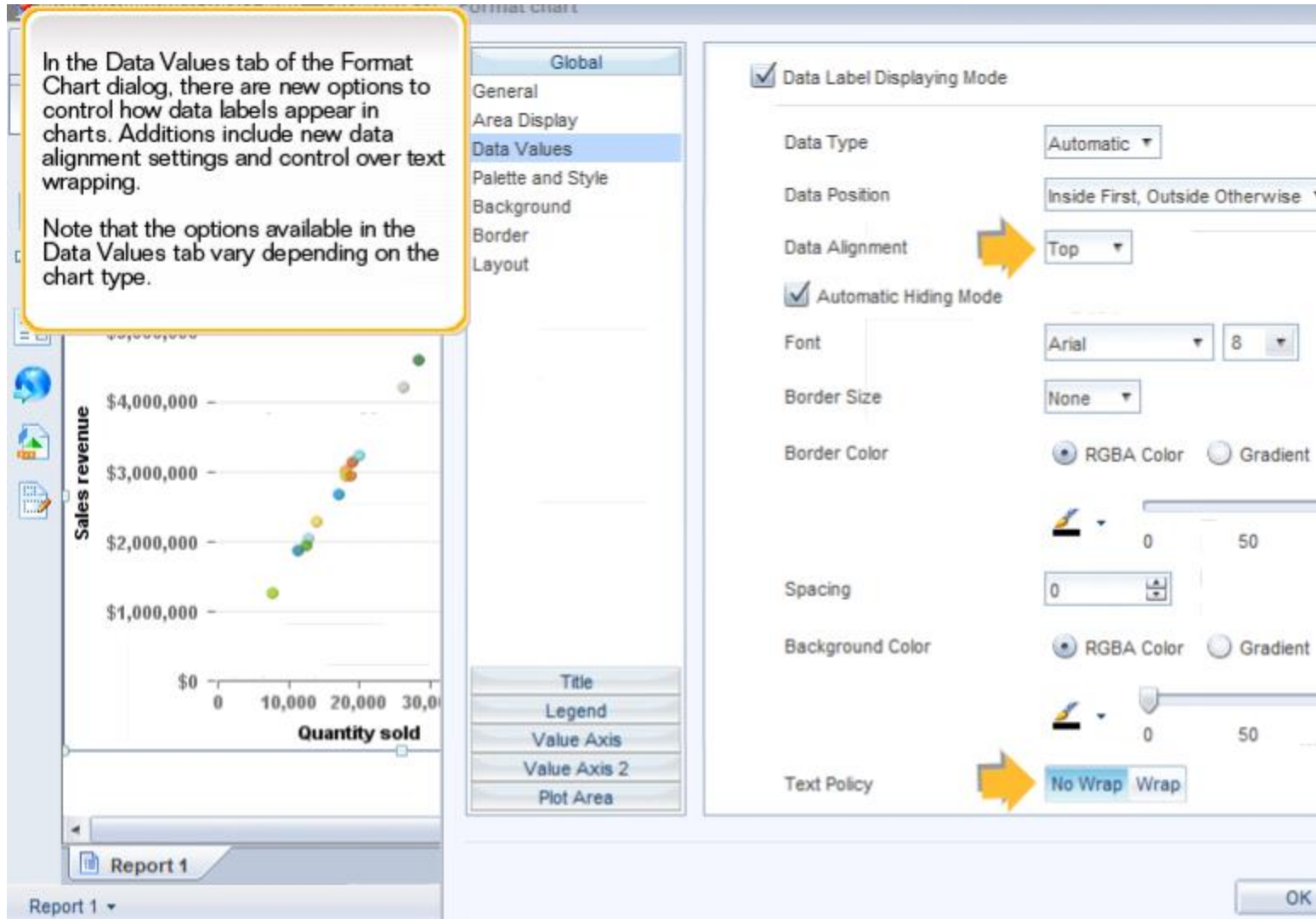


	Anne Dodsworth	13,392,341.42	15,935
Belgium	Nancy Davolio	115,578.16	498

## New data labels control options

In the Data Values tab of the Format Chart dialog, there are new options to control how data labels appear in charts. Additions include new data alignment settings and control over text wrapping.

Note that the options available in the Data Values tab vary depending on the chart type.



The screenshot displays the 'Format Chart' dialog box, specifically the 'Data Values' tab. The left sidebar shows the 'Data Values' tab selected. The main area shows a scatter plot with 'Sales revenue' on the Y-axis and 'Quantity sold' on the X-axis. The right pane contains the following settings:

- ☒ Data Label Displaying Mode
- Data Type: Automatic
- Data Position: Inside First, Outside Otherwise
- Data Alignment: Top
- ☒ Automatic Hiding Mode
- Font: Arial, 8
- Border Size: None
- Border Color: RGBA Color
- Spacing: 0
- Background Color: RGBA Color
- Text Policy: No Wrap

Yellow arrows highlight the 'Data Alignment' and 'Text Policy' options.

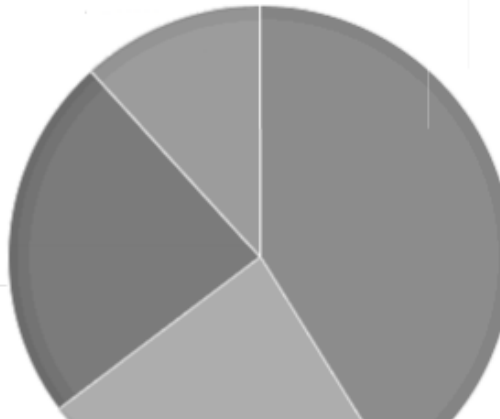
## New workflows for building charts

There are also new workflows for building charts. You no longer need to go to Structure Mode to feed a chart, and charts are displayed in gray when feeding is incomplete.

Charts also offer increased interactivity, with tooltips, chart rotation, and easy selection of chart axes, legend, plot area, or titles for editing.

**Report 1**

State	Store name	Quarter	Year	Sales revenue
California	e-Fashion Lo	Q1	2004	\$308,928
California	e-Fashion Lo	Q1	2005	\$398,860
California	e-Fashion Lo	Q1	2006	\$421,390
California	e-Fashion Lo	Q2	2004	\$353,550



The screenshot shows the SAP Business Objects Web Intelligence interface. The top menu bar includes File, Properties, Report Element, Format, Data Access, Analysis, Page Setup, Reading, Design, and Data. The Design tab is active, showing sub-tabs for Table, Cell, Section, Chart, and Others. The Chart sub-tab is selected, displaying options like Turn Into and Set as Section. A yellow arrow points to a gray pie chart on the right side of the report. The report itself is titled 'Report 1' and contains a table with sales data. The status bar at the bottom shows 'Report 1', 'Sales by product', 'Track Changes: Off', 'Page 1', '100%', and 'Connected'.

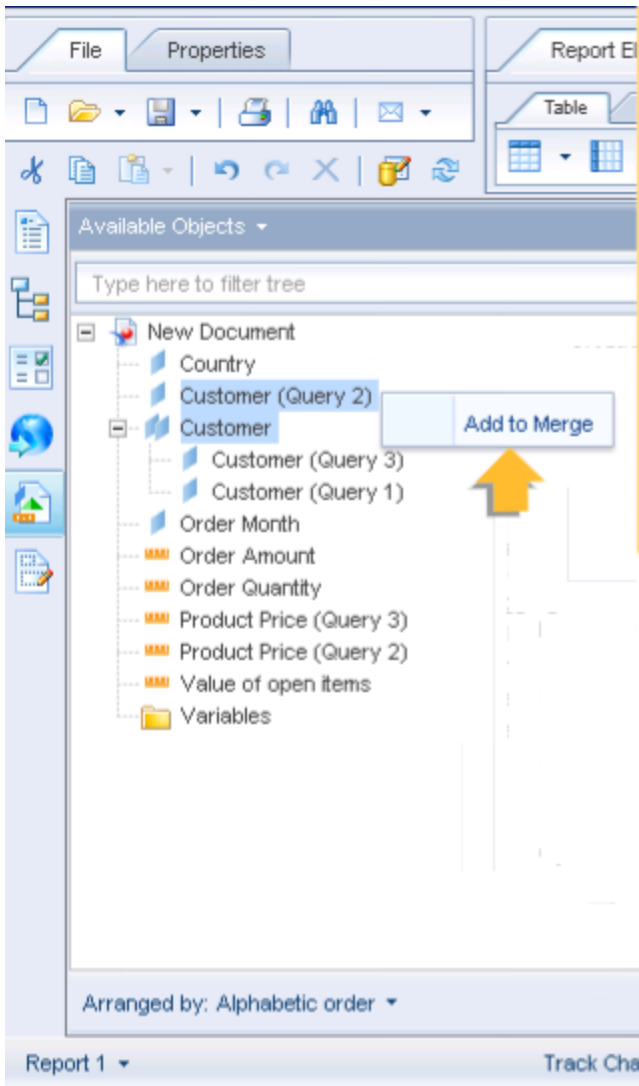
# Visualizations now more flexible

Visualizations are now more flexible and offer more display choices:

- Bar and Line charts can share the same value axis
- A virtual dimension is available for measure names (for example, allowing Measure Name as a category axis)
- Independent axis stacking enables stacked bar and line charts
- Measures can be stacked
- More control is available in feeding (for example, associating a dimension to region shape in a scatter chart)
- Flexible measure type transformations are available
- Formulas can appear in titles
- Legend items can be grouped by dimensions
- Grid display is available for hierarchies or stacked dimensions
- Height and width of chart areas are adjustable as absolute or relative values
- More control is available on lines and markers
- More attractive bar types are available
- New light and shadow, transparency, and gradient effects are available

State
California
Colorado
DC
Florida
Illinois
Massachusetts
New York
Texas

## Merged objects more flexible



You can now add an additional object to a merged object, or remove an object from a merged object, using the right-click menu.

You can also work with merged objects based on hierarchies.

When you merge the same hierarchy from different queries, the merged object maintains the full hierarchy structure. When a hierarchy is merged with a flat dimension, the result is a hierarchy in which any members of the flat dimension that were not part of original hierarchy are inserted at level 1. When two different hierarchies are merged, members with different parents in each source hierarchy are copied with each parent, so calculated results remain accurate with no duplication.

City Cyclists	USA	8,322.1
Customer Sh	USA	110,612.67
Customer Sh	USA	101,370.29
Customer Sh	USA	71,215.28
Customer Sh	USA	78,906.41
Customer Sh	USA	74,887.06
Customer Sh	USA	75,795.93

Report 1

Track Changes: Off

Page 1 of 1+

100%

1 min

## User's response for an individual prompt

The Prompt option in the Pre-Defined cell list now enables you to insert a cell to display the user's response to an individual prompt.

Previously it was possible only to display the responses to all the prompts in document.

The screenshot shows the Microsoft Access interface. On the left, a 'Sales report' is listed with fields: City, Month, State, Store name, Quantity sold, Sales revenue, and Variables. The 'Pre-Defined' list is open, showing options like Document Name, Last Refresh Date, Drill Filter, Query Summary, Prompt, Report Filter Summary, Page Number, Page Number/Total Pages, and Total Number of Pages. The 'Prompt' option is selected, and a sub-menu is displayed with options: Prompt Summary, Enter values for State:, and Enter values for Category:. A yellow arrow points to the 'Enter values for State:' option.

State				
California			\$34,948	243
California			\$10,129	74
California			\$22,239	148
California	Los Angeles	e-Fashion Lo	\$19,440	146
California	Los Angeles	e-Fashion Lo	\$18,214	107
California	Los Angeles	e-Fashion Lo	\$9,910	54
California	Los Angeles	e-Fashion Lo	\$7,203	56

Report 1

Track Changes: Off

Page 1 of 1

100%

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State	City	Store name	Page Number	Sales revenue	Page Number/Total Pages
California			1	\$34,948	243
California			2	\$10,129	74
California			3	\$22,239	148
California	Los Angeles	e-Fashion Lo	4	\$19,440	146
California	Los Angeles	e-Fashion Lo	5	\$18,214	107
California	Los Angeles	e-Fashion Lo	6	\$9,910	54
California	Los Angeles	e-Fashion Lo	7	\$7,203	56

Report 1

Track Changes: Off

Page 1 of 1

100%

## Input control: option to select all values can be disabled

When creating an input control, you can now disable the option to select all values.

This enhancement is useful when working with custom lists of values or large datasets.

Note that when you disable the selection of all values, you must provide a default value.

Also note the option to disable selection of all values is not available for measure or hierarchy objects, or for entry field or calendar type input controls.

Report 1

Track Changes: Off Page 1 of 1 100%

# Input controls copied over when a report is duplicated

When you duplicate a report, any associated input controls are now copied.

Previously, it was necessary to re-create any input controls when duplicating a report.

Store name	Year	Sales revenue
e-Fashion Chicago 33rd	2004	\$737,914
e-Fashion Chicago 33rd	2005	\$1,150,659
e-Fashion Chicago 33rd	2006	\$1,134,085

The screenshot shows the Microsoft Reporting Services interface. The 'Input Controls' pane on the left displays a dropdown menu for 'Store name' with 'e-Fashion Chicago 33rd' selected. The main report area shows a table titled 'Revenue by location' with three columns: 'Store name', 'Year', and 'Sales revenue'. The table contains three rows of data for the years 2004, 2005, and 2006. To the right of the table is a pie chart with three segments: orange, blue, and green. The status bar at the bottom indicates 'Report 1 (1)', 'Track Changes: Off', 'Page 1 of 1', '100%', and '19 minutes ago'.

## Training Material available (See on the MARS Portal!)

- **Webinar**—Recorded step-by-step demonstration video, tailored to MARS users.
- The **“Business User” Guide** – This guide conveys basic concepts and step-by step directions for:
  - system log-on
  - system navigation
  - viewing and refreshing reports
  - saving reports
  - sending reports to other users
- The **“Power User” Guide** – This guide conveys more advanced concepts and step-by step directions for:
  - Creating Webi Documents
  - Filtering Document Queries
  - Report Formatting
  - Advanced Report formatting
  - Analytic Features
  - Cross-tab Reports
- **Web-Based Reporting Module Training via Knowledge Accelerator** – Knowledge Accelerator is a web-based training tool that simulates use of the reporting and querying module. Knowledge Accelerator provides the user with an understanding of how the screens flow and provides the opportunity to practice processes/operations in the tool (e.g., opening a report, refreshing a report, etc.).



# MARS Support Information

- **Hours: Mon-Fri 7:30 am - 5:30 pm EST**
- **Contact Information**
  - **Email**
    - [mars.support@noaa.gov](mailto:mars.support@noaa.gov)
  - **Phone**
    - (301) 427-8888
  - **Fax**
    - (301) 713-1742